

# 9

## Glossary

Word, phrase or acronym	Definition
<b>100-year floodplain</b>	An area with a one percent chance of being flooded in any given year.
<b>95th percentile queue length</b>	The length of or number of vehicles that has only a five percent chance of being exceeded during the analysis time period (in this case, 2025 PM peak hour). It is used for determining the appropriate length of turn pockets.
<b>Abatement</b>	A reduction in degree or intensity.
<b>Access control</b>	Access control is the limiting and regulating of public and private access to Washington State's highways, as required by state law.
<b>Access hearing</b>	An access hearing is required by state law, and must occur before final access/right of way plans are approved. The hearing targets those properties that would have access altered. During this hearing, property owners whose access would be altered have the opportunity to present formal verbal or written testimony.
<b>Adverse effects</b>	These are negative or "bad" effects on the community.
<b>Affected property owners (residences, receivers and receptors)</b>	Within 500 feet of pavement edge line (commonly known as fog line, ref. o), all property owners who are found to benefit from a 3dBA or greater noise reduction as a result of the proposed abatement; or, receivers directly behind the barrier who will have visual blockage as a result of proposed abatement but who may not benefit from abatement.
<b>Air and dust emissions</b>	Airborne pollutants released during the construction processes.
<b>Alluvial deposit</b>	Soil or rock deposited by running water.
<b>Alluvial sediments</b>	Sediment is a general term for any unconsolidated particulate material that has been deposited by an agent of transport, such as water, ice, or wind. Alluvial sediment is unconsolidated particulate material that has been deposited by a river or stream.
<b>AM peak hour</b>	The AM peak hour is the time period when traffic is heaviest during the early morning commute.
<b>Ambient sound</b>	Noise levels of the surrounding area.
<b>American Society for Testing and Materials E1527 Standards</b>	The standard for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products.
<b>Annual Average Daily Traffic (AADT)</b>	The yearly average of the number of vehicles that pass a specified location in a 24-hour period.
<b>Approach (noise)</b>	This term has been defined as 1 dBA below the set FHWA Noise Abatement Criteria (NAC).
<b>Aquifer recharge area</b>	An area where rainfall, snowmelt, infiltration from lakes, wetlands and streams, or irrigation water infiltrates into the ground and adds to the water underground that can supply a well.
<b>Area of Potential Effects (APE)</b>	The APE is the geographic area within which the project may directly or indirectly cause alterations in the character or use of historic properties and cultural and archaeological resources. This is a term that specifically applies to Section 106 of the National Historic Preservation Act.
<b>Average Daily Traffic (ADT)</b>	The number of vehicles that pass a specified location in a 24-hour period.

Word, phrase or acronym	Definition
<b>Average speed</b>	The average speed during the peak hour for a vehicle traveling from one end of the project corridor to the opposite end. This is measured by direction.
<b>A-weighted sound level (dBA)</b>	The sound pressure levels in decibels measured with a frequency weighting network corresponding to the A-scale on a standard sound level meter as specified by ANSI S1.4-1971. The A-scale tends to suppress lower frequencies, (e.g., below 1,000 Hz) and best approximates the sound as heard by the normal human ear.
<b>Background sound (noise)</b>	The total of all sound in a system or situation, independent of highway traffic noise under study.
<b>Barrier (noise)</b>	A solid wall or earth berm located between the roadway and receiver location that provides noise reduction.
<b>Basalt (geology and soils)</b>	Basalt is a dark, fine-grained rock that forms when volcanic lava hardens. It often has a glassy appearance.
<b>Beneficial effects</b>	These are positive or “good” effects on the community.
<b>Benefited (noise)</b>	Property owners (receivers) within 500 feet of the highway edge line (fog line) found to receive a 3 dBA or greater traffic sound level reduction as a result of the proposed abatement.
<b>Berm</b>	A mound or bank of earth, used especially as a barrier.
<b>Best Management Practices (BMPs)</b>	Physical, structural, and/or managerial practices that, when used singly or in combination, prevent or reduce pollutant discharge.
<b>Biological Assessment</b>	<p>A Biological Assessment is a document that is prepared for compliance with the Endangered Species Act in cases where the potential exists for a project to affect federally listed species. Its purpose is to document the project's potential to affect listed species, to document measures taken to avoid adverse affects, and to make a provisional effects call. Scientific data used to prepare Biological Assessments are generally gathered through a combination of field reconnaissance surveys, and scientific literature research; and provisional effects determinations are established based on an analysis of project design details.</p> <p>The Biological Assessment is submitted to the National Marine Fisheries Service and/or the US Fish and Wildlife Service.</p>
<b>Block group</b>	A subdivision of a census tract, a block group is the smallest geographic unit for which the US Census Bureau tabulates sample data. Block groups average about 1,500 inhabitants.
<b>British Thermal Unit (BTU)</b>	A standard unit of measurement for energy use. A BTU was originally established as the amount of energy needed to raise the temperature of one pound of water in liquid form by one degree Fahrenheit.
<b>Candidate species</b>	A candidate species is any species that is being considered for addition to the list of endangered and threatened species.
<b>Capacity</b>	The amount of traffic that can be contained on a transportation facility is referred to as its capacity. Capacity is related to the number of travel lanes, ramp storage, and auxiliary lanes. It is measured by the number of vehicles per unit of time.
<b>Carbon dioxide (climate change)</b>	Carbon dioxide (CO <sub>2</sub> ) is a colorless, odorless gas that is present in the atmosphere and is formed when any fuel containing carbon is burned. It is breathed out of an animal's lungs during respiration, is produced by the decay of organic matter, and is used by plants in photosynthesis.
<b>Carbon monoxide (air quality)</b>	Carbon monoxide (CO) is an odorless, poisonous gas produced by the incomplete burning of hydrocarbons, as in automobile exhaust and cigarette smoke. It is a major air pollutant because it gets into human blood and prevents cells and tissues from receiving life-sustaining oxygen.
<b>Carbon monoxide (CO) emissions (air quality)</b>	A measure of carbon monoxide emissions generated during the peak hour.

Word, phrase or acronym	Definition
<b>Census</b>	The US Census Bureau takes the census (or survey) of population and housing in years ending in zero. The census includes both a short form (100 percent survey) and a long form (sample survey of one in six households).
<b>Census tract</b>	This is a small, relatively permanent statistical subdivision for presenting census data. Census tract boundaries normally follow visible features, but may follow governmental unit boundaries or other non-visible features. Census tracts average about 4,000 inhabitants.
<b>CFR</b>	The Code of Federal Regulations.
<b>Clean Water Act 303(d) List</b>	Section 303(d) of the federal Clean Water Act requires Washington State to prepare a list of all surface waters in the state for which beneficial uses of the water – such as for drinking, recreation, aquatic habitat, and industrial use – are impaired by pollutants.
<b>Community cohesion</b>	The ability of people to communicate and interact with each other in ways that lead to a sense of community, as reflected in the neighborhood's ability to function and be recognized as a singular unit. Physical attributes of a community, resident demographic characteristics, social values, and shared community activities and daily interaction of residents, business owners, and employees define the strength of the community's cohesion.
<b>Concentration</b>	Amount of substance in a unit volume or weight.
<b>Congestion</b>	Congestion is travel time or delay in excess of what is normally incurred under light or free-flow travel conditions.
<b>Construction staging areas</b>	Locations where contractors store equipment and materials during the construction process.
<b>Contamination</b>	Introduction of a pollutant into another substance or the environment.
<b>Controlled intersection</b>	A controlled intersection is an intersection that has signs or signals that establish who has the right of way. Includes traffic signals or an all-way stop.
<b>Critical Aquifer Recharge Area (CARA)</b>	<p>“Category I CARA” means the highest priority critical aquifer recharge area, represented by the one-year time-of-travel for Group A water wells.</p> <p>“Category II CARA” means the primary critical aquifer recharge area, represented by the ten (10) year time-of-travel for Group A water wells. This area also consists of the unconsolidated sedimentary aquifer and the Troutdale gravel aquifer.</p>
<b>Critical habitat</b>	Critical habitat has been defined as the area within 300 feet from the ordinary high water elevation of a stream where a listed species is present or was historically present.
<b>Cumulative effects</b>	A cumulative effect is the effect on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative effects result from individually minor but collectively significant actions taking place over a period of time.
<b>dBA</b>	(see Decibel)
<b>Debitage (archaeological resources)</b>	Debitage is the flaking by-products that result from working rough stone into tools.
<b>Decibel (noise)</b>	Decibel is a unit for relative sound intensity. For highway traffic noise, an adjustment, or weighting, of the high and low-pitched sounds is made to approximate the way that an average person hears sounds. The adjusted sounds are called “A-weighted levels” (dBA).
<b>Delay (traffic)</b>	Delay results from slowed or stopped traffic, and is measured as the additional time spent traveling compared to normal travel times under light or free-flow travel conditions.
<b>Department</b>	Washington State Department of Transportation, also known as WSDOT.
<b>Design year</b>	The future year used to estimate the probable traffic volume for which a highway is designed. A time, usually 20 years from the year construction is scheduled to begin, is generally used.
<b>Detention pond</b>	A facility for temporarily holding stormwater runoff so that it can be released at a controlled rate.

Word, phrase or acronym	Definition
<b>Determination of Eligibility (DOE)</b>	A Determination of Eligibility is made when, during the Section 106 process, a cultural or historic resource has been identified which may be affected by the execution of a federal, federally licensed, or federally assisted project. The purpose of the DOE is to determine whether or not a cultural or historic resource is eligible for listing in the NRHP. For this project, the determination is made by the Washington State Department of Archaeology and Historic Preservation (DAHP). If a resource is determined to be eligible for listing in the NRHP, the Section 106 process continues, and a Finding of Effect is prepared.
<b>Differential settlement (geology and soils)</b>	The uneven settlement or downward movement of the ground.
<b>Direct linkages</b>	Direct linkages are primary roads/highways that directly connect the origin and destination of traffic and minimize the use of secondary roads.
<b>Disability</b>	Generally, the US Census defines a person with a disability as having a long-lasting condition, such as severe vision or hearing impairments, or a condition that substantially limits basic physical activities. It may also include people with conditions that make other activities such as learning, getting around inside the home, working at a job, or going places outside the home difficult.
<b>Disproportionate adverse effect</b>	An adverse effect that: (a) is predominantly borne by a minority population and/or a low-income population; or (b) is suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population. Cultural differences need to be considered when doing the analysis.
<b>Downdrag (geology and soils)</b>	The development of a downward force from soil on a deep foundation, often occurring after soil has liquefied.
<b>Easement</b>	An easement is a legal right to use property owned by someone else for a designated purpose.
<b>Effluent load (surface water)</b>	A measure of the quantity of a material discharged into a water body over a given period of time (typically one year), usually measured in units such as pounds or kilograms.
<b>Elderly</b>	A man or woman aged 65 or older.
<b>Emergent wetlands</b>	Wetlands dominated by herbaceous plants.
<b>Endangered species</b>	An endangered species is any species that is in danger of extinction throughout all or a significant portion of its range.
<b>Environmental Data Resources (EDR) report</b>	EDR, Inc provides a review of environmental regulatory database records to identify recorded potential contamination sources within a one-mile radius of the study area.
<b>Environmental justice</b>	Refers to the process of identifying and addressing disproportionately high and adverse human health and/or environmental effects on minority and/ or low-income populations.
<b>Erosion</b>	The wearing away of soil and rock. This may be by weathering and the action of streams, glaciers, waves, wind, and underground water.
<b>Essential fish habitat (EFH)</b>	EFH includes waters (streams, lakes, ponds, wetlands, and other water bodies) currently or historically accessible to certain salmon, groundfish, or certain fish species that occur near coastlines. EFH applies to the full life cycle to include spawning, breeding, feeding, and growth to maturity. For a more complete discussion of EFH, please refer to the biological assessment.
<b>Ethnicity</b>	Identity with or membership in a particular racial, national or cultural group and observance of that group's customs, beliefs, and language. It may also include a set of individuals whose identity as such is distinctive in terms of common cultural traditions or heritage.
<b>Evolutionary Significant Unit (ESU)</b>	The term used by the National Marine Fisheries Service for a fish species population protected by a listing under the Endangered Species Act.

Word, phrase or acronym	Definition
<b>Executive Order on Environmental Justice (Executive Order 12898)</b>	Enacted in February 1994 to ensure that federal agencies do not unfairly inflict environmental harm on economically disadvantaged and minority groups within the United States or any of its territories.
<b>Existing sound level</b>	The current sound level, made up of all natural and human made sounds, considered to be usually present within a particular area's acoustic environment.
<b>Farmland Protection Policy Act</b>	The Farmland Protection Policy Act directs federal agencies to identify and quantify adverse effects of federal programs on farmland.
<b>Fault (geology and soils)</b>	A fracture or fracture zone along with there has been displacement of the sides relative to one another.
<b>Feasible (noise)</b>	Feasible refers to whether the barrier can provide a substantial (at least seven decibels) reduction in noise and other constructability issues.
<b>Federal actions</b>	Includes projects that receive federal funding or require a federal permit.
<b>Federally-listed species</b>	A federally-listed species is one which is listed by the federal government as threatened or endangered under the Endangered Species Act.
<b>Finding of Effect (FOE)</b>	A Finding of Effect is prepared when, during the Section 106 process, a cultural or historic resource (district, site, building, structure, or object) has been identified as either listed in or eligible for listing in the NRHP. The purpose of the FOE is to determine whether the action will have an effect on the identified resource and the level of effect (No Historic Properties Affected, No Adverse Effect, or an Adverse Effect). If the action results in an Adverse Effect, the Section 106 process continues, and, through consultation with the SHPO, ways to minimize the effect on the resource are explored. This is sometimes referred to as "mitigation."
<b>Floodway</b>	The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base (100-year) flood without cumulatively increasing the water surface elevation more than a designated height. For Clark County, the designated height is one foot. (FEMA, NFIP Policy Index)
<b>Fuel used</b>	The total number of gallons used during the peak hour. It is a measure of travel distance, speed, and delay.
<b>Groundwater</b>	Water found below the water table.
<b>Habitat fragmentation</b>	The separation of a continuous wildlife habitat into separate fragments or patches.
<b>Hazardous material</b>	In a broad sense, any substance or mixture of substances having properties capable of producing adverse health or safety effects.
<b>Heavy truck</b>	Any vehicle having three or more axles and designed for the transportation of cargo. Generally, the gross weight is greater than 26,000 pounds (12,000 kilograms).
<b>High accident corridor</b>	Sections of state highway one or more miles long, with a higher than average number of severe accidents over a continuous period of time.
<b>Highway</b>	The entire width between the right of way boundary lines of every publicly maintained travel way when any part thereof is open to the public use for purposes of motorized vehicular travel. May also be referred to as a street or road.
<b>Hispanic/Latino</b>	A self-designated classification for people whose origins are from Spain, the Spanish-speaking countries of Central or South America, the Caribbean, or those identifying themselves generally as Spanish, Spanish-American, etc. Origin is viewed as ancestry, nationality, or country of birth of the person or person's parents or ancestors. Hispanic/Latino persons may be of any race, White and non-White.
<b>Hourly continuous noise (Leq)</b>	The equivalent steady-state sound level that, in a stated period of time, contains the same acoustic energy as the time-varying sound level during the same period.

Word, phrase or acronym	Definition
<b>Housing of last resort</b>	A term from the Uniform Relocation Act for when, to provide comparable decent, safe and sanitary housing within a person's financial means, replacement housing payments may exceed the maximum amount typically allowed.
<b>Hydric soils</b>	A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (a situation where oxygen is absent) that favor the growth and regeneration of plants that are adapted to grow in water or very wet environments.
<b>Hydrocarbon</b>	Any of a class of compounds containing only hydrogen and carbon.
<b>Hydrology</b>	The science that relates to the occurrence, properties, and movement of water on the earth. It includes water found in the oceans, lakes, rivers, streams, and wetlands, as well as in upland areas, above and below ground, and in the atmosphere.
<b>Impacted community (noise)</b>	A grouping of acoustically sensitive receptor sites that reflect the group of citizens exposed to traffic sound levels at least approaching the noise abatement criteria or increasing to substantially exceed existing sound levels due to a project.
<b>Impervious surface</b>	A hard surface area that either prevents or retards the entry of water into the soil mantle as occurs under natural conditions (prior to development) and from which water runs off at an increased rate of flow or in increased volumes. Common impervious surfaces include but are not limited to rooftops, walkways, patios, driveways, parking lots, storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled or macadam surfaces. Open, uncovered retention/detention facilities are not considered impervious surfaces for the purpose of determining whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities are considered impervious surfaces for the purpose of runoff modeling.
<b>Indirect effects</b>	Indirect effects are caused by the proposed action or alternative and are later in time or farther removed in distance, but still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems.
<b>Initial site assessments (hazardous materials)</b>	Site-specific assessment of property conditions to accurately assess the potential for existing environmental contaminants on each property.
<b>Insertion loss (noise)</b>	The actual acoustical benefit derived from a sound barrier.
<b>Intactness (visual quality)</b>	<p>Intactness is the visual integrity of the natural and human landscape, and its freedom from encroaching elements.</p> <p>With high intactness there is a high visual integrity between the natural and man made landscape to the extent that the landscape is free from visual encroachment. Visual integrity occurs where natural areas and man made landscapes blend into the surrounding character and create no visual discontinuity between the natural and man made elements. Natural and man made patterns are not disturbed and they maintain visual order.</p> <p>With medium intactness there is an average visual integrity between the natural and man made landscape. Some visual encroachment onto the landscape is present and it lacks visual order. There is some disruption of the natural and man made patterns.</p> <p>With low intactness there is low visual integrity between the natural and man made landscape features. Visual encroachment onto the landscape is very apparent. The pattern of elements is disrupted and the integrity of the natural visual order is lost.</p>
<b>K-12</b>	Kindergarten through twelfth grade.
<b>Lateral spreading (geology and soils)</b>	A liquefaction phenomenon in which incremental horizontal displacement of soil occurs during an earthquake.
<b>Leaking Underground Storage Tank (LUST) (hazardous materials)</b>	Refers to sites (mostly gas stations) with leaking underground fuel storage tanks that are cleaned up under the supervision of Washington State Department of Ecology's Underground Storage Tank Program.



Word, phrase or acronym	Definition
<b>Level of Service (LOS)</b>	LOS is a measure describing traffic conditions in terms of speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and delay. Letter designations from A to F are used, with LOS A representing the best operating conditions (no congestion) and LOS F the worst (near or at-gridlock) conditions.
<b>Level of Service E</b>	Level of Service (LOS) E represents operating conditions at or near the capacity level of a given facility. All speeds are reduced to a low but relatively uniform level. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.
<b>Level of Service F</b>	Level of Service (LOS) F occurs at gridlock. This condition (gridlock) exists whenever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion.
<b>Limited English proficiency</b>	An individual who speaks a language other than English at home and speaks English “not well” or “not at all.”
<b>Liquefaction (geology and soils)</b>	A process in which water-saturated soil temporarily loses its strength and acts as a fluid.
<b>Loam (geology and soils)</b>	Loam is soil composed of sand, silt, and clay in relatively even concentration.
<b>Low-income household</b>	Median household income is at or below the Department of Health and Human Services poverty guidelines (updated annually) for different sizes of households.
<b>Maintenance Area (air quality)</b>	An area that has previously violated air quality standards for one or more of the principal pollutants (carbon monoxide, lead, nitrogen dioxide, particulate matter (PM10 and PM2.5), ozone, and sulfur dioxides), but now meets air quality standards and has an approved Clean Air Act section 175(a) maintenance plan.
<b>Majority (noise)</b>	As it relates to noise mitigation requirements, majority is defined as 60 percent of the first row residents or residential equivalents and 55 percent of all other residents or residential equivalents behind the proposed barrier where property lines are within 500 feet of the pavement edge line (fog line).
<b>Marine sedimentary rock</b>	A layered rock resulting from the consolidation of sediment in a marine environment.
<b>Median barrier</b>	A median barrier is typically a three-foot-high concrete barrier that separates and controls traffic movements.
<b>Median curb</b>	Median curb is an approximately six- or eight-inch-high curb that emphasizes travel and turn-lane edges, delineates pedestrian walkways, controls drainage, assists in access control, and inhibits mid-block left-turns.
<b>Median income</b>	Household income that is in the middle of the range of total household incomes. It is not the average.
<b>Median treatment</b>	A median treatment is a structure in the center of a roadway that physically separates the two directions of travel. The primary purpose of a median treatment is to prevent vehicles from straying into opposing lanes. In addition, median treatments can prevent turns where they are undesirable from a traffic flow or safety standpoint.
<b>Medium trucks</b>	All vehicles having two axles and six wheels designed for the transportation of cargo. Generally, the gross vehicle weight is greater than 10,000 pounds (4,500 kilograms) but less than 26,000 pounds (12,000 kilograms).

Word, phrase or acronym	Definition
<b>Memorandum of Agreement (MOA)</b>	A formalization of the means of resolving negative effects agreed upon by the consulting parties, serving to specify mitigation, identify responsibility, render Advisory Council comment, and acknowledge effects of the undertaking on historic properties.
<b>Minority</b>	A person who is: Black (a person having origins in any of the black racial groups of Africa). Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or the Spanish culture or origin, regardless of race). Asian/Pacific Islander (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands). American Indian or Alaskan Native (a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition).
<b>Mitigation</b>	The measures that could be taken to lessen the negative effects predicted for each resource. These measures may include reducing or minimizing a specific negative effect, avoiding it completely, or rectifying or compensating for the negative effect.
<b>Modified control limited access facility</b>	A modified control limited access facility is a roadway with limited access points that are planned and established for each individual parcel. This improves the safety of the roadway and the flow of traffic. Limited accesses are a deeded right administered by Washington State Department of Transportation.
<b>Motorists</b>	Those traveling by car, truck, or motorcycle on an Interstate, state, or local road within the study area.
<b>National Ambient Air Quality Standards (NAAQS)</b>	The National Ambient Air Quality Standards are the maximum allowable level, averaged over a specific time period, for a certain air pollutant in the outdoor air.
<b>National Environmental Policy Act (NEPA)</b>	The federal policy that requires agencies to incorporate environmental considerations into decision making by preparing an environmental assessment or environmental impact statement that consider the effects of proposed actions.
<b>National Register of Historic Places (NRHP)</b>	A list of districts, sites, buildings, structures, and objects maintained by the National Park Service, each determined by the National Park Service to be of historic, cultural, architectural, archaeological, or engineering significance at the national, state, or local level.
<b>Nephelometric turbidity units (NTU) (surface water)</b>	Nephelometric turbidity units, measured with a turbidimeter, shows how light is scattered by suspended material in water. NTU is an indicator of water quality.
<b>Nickel Project</b>	The 2003 Washington State Legislature enacted the “Nickel Funding Package” for transportation projects across the state. The funding for these projects comes from the 2003 \$0.05 gas tax increase and other new fees and charges. The I-5/SR 502 Interchange Project is one of those projects.
<b>Nitrogen oxides (NO<sub>x</sub>) (air quality)</b>	Nitrogen oxides are a major air pollutant. It forms when nitric oxide from combustion engines mixes with oxygen in the atmosphere. It is a component of smog and, in the presence of sunlight, it reacts with oxygen to form ozone.
<b>Noise abatement criteria</b>	If future noise levels with a project are predicted to approach or exceed the FHWA noise criteria at a sensitive receptor, abatement is evaluated at the receptor. For residences, the criterion is 67 dBA. Washington State Department of Transportation considers a noise effect to occur if the noise level is within 1 dBA of the 67 dBA criterion.
<b>Noise effect</b>	Locations where traffic noise – in combination with other ambient noise sources – is high enough to warrant consideration of noise abatement measures.
<b>Nonattainment area (air quality)</b>	A geographic region designated by EPA in which federal air quality standards are not or were not met by a certain date. There are six air pollutants that are monitored; particulate matter (PM), carbon monoxide (CO), ozone (O <sub>3</sub> ), nitrogen dioxide (NO <sub>2</sub> ), sulfur dioxide (SO <sub>2</sub> ), and lead (Pb).



Word, phrase or acronym	Definition
<b>Number of stops per vehicle</b>	The transportation model totals the number of times a vehicle must stop for traffic congestion at an intersection. This does not include stopping that is required for a stop sign or a red light but does include stopping for a traffic backup caused by congestion at an intersection. The measure is calculated by dividing the total number of stops by the total number of vehicles in the model.
<b>Off-corridor alternatives</b>	Off-corridor alternatives consider improvements that would create a new roadway north or south of the existing SR 502 corridor.
<b>On-corridor alternatives</b>	On-corridor alternatives focus on improvements to the existing SR 502 roadway.
<b>Ordinary high water mark (OHWM)</b>	Physical mark along most waterways that indicates height normally reached during average high flow.
<b>Ozone (air quality)</b>	Ozone is a highly reactive form of oxygen that occurs mostly in the earth's upper atmosphere. It is one of six air pollutants monitored by the US Environmental Protection Agency because the pollutants can affect public health, soil, water, visibility, materials, vegetation, and other aspects of the general welfare..
<b>Partially controlled intersection</b>	A partially controlled intersection is an intersection that has stop signs only on the side streets or the intersecting local roads.
<b>Particulate matter (air quality)</b>	Particulate matter includes both naturally occurring and man made particles with a diameter less than 10 microns or 2.5 microns respectively. Sources of particulate matter include sea salt, pollen, road dust, agricultural dust.
<b>Peat (geology and soils)</b>	A soil formed of decomposing plant material in a water saturated environment.
<b>Petroleum</b>	An oily naturally occurring liquid that is a form of bitumen or a mixture of various hydrocarbons: used as fuel or separated by distillation into gasoline, etc.
<b>Planned, designed, and programmed (or date of development)</b>	A new development is so designated when a definite commitment and local approval has been made to develop the property in question, and there is also official local knowledge and approvals that such development has been "planned, designed, and programmed." A definite commitment means that a developer has shown a definite interest to develop the land within a reasonable amount of time and has reached a point where he/she can no longer practically change his/her plans. For noise analysis purposes under this policy, the commitment is identified as the date of issuance of the building permit.
<b>PM peak hour</b>	The PM peak hour is when traffic is heaviest during the evening commute.
<b>PM<sub>2.5</sub> (air quality)</b>	Particulate matter having a nominal aerodynamic diameter less than or equal to 2.5 microns.
<b>PM<sub>10</sub> (air quality)</b>	Particulate matter having a nominal aerodynamic diameter less than or equal to 10 microns.
<b>Pollutant</b>	Any substance that upon reaching the environment (soil, water, or air), is degrading in effect so as to impair the environment.
<b>Pollutant loading (surface water)</b>	The total mass of pollutant introduced into a system during a specified event or period of time.
<b>Prime farmland</b>	A category of protected and highly productive cropland that is recognized by the US Department of Agriculture's Natural Resources Conservation Service.
<b>Project scoping</b>	A scoping meeting is designed to: a) Inform the public and agencies of the project and alternatives, b) Serve as a forum to gather comments to help identify potential environmental effects, c) Ensure that the environmental documents consider reasonable alternatives, d) Help identify issues and concerns to focus on items important to the local community and agencies.

Word, phrase or acronym	Definition
<b>Proposed species</b>	A proposed species is any species that is proposed for listing on the endangered or threatened list.
<b>Queue</b>	A queue is a line of waiting vehicles. Vehicle queuing is when vehicles are stopped and form a line.
<b>Queues greater than two blocks (600 feet)</b>	This measure is determined by examining queues either calculated in the traffic model using the traffic capacity module or the traffic simulation model runs.
<b>Race</b>	Race is a self-identification characteristic of population and in 2000 included: White and non-White races. The non-White races included Black or African-American alone, American Indian or Alaska Native alone, Asian alone, Native Hawaiian or other Pacific Islander alone, some other race alone, or a mixture of two or more races.
<b>Reasonable (noise)</b>	Reasonable refers to the maximum cost per residence benefiting from the noise abatement.
<b>Reasonably predictable sites</b>	Sites where recognized environmental conditions are known based on existing data or can be predicted based on site observations, previous experience in similar situations, or by using best professional judgment.
<b>Reconnaissance</b>	A general survey of a region.
<b>Residents</b>	Those whose primary residence is within the study area.
<b>Right of way</b>	Right of way is the land set aside for use as a highway. Rights of way are purchased (acquired) prior to the construction of a new road. Usually enough extra land is purchased for the purpose of providing safety clearances, building retaining walls, and implementing other mitigation features.
<b>Riparian area</b>	A riparian area is an area of land covered by vegetation and adjacent to and influenced by streams, lakes, and open water wetlands.
<b>Salmonid</b>	Belonging to the family <i>Salmonidea</i> , including salmon, trout, and whitefish.
<b>Section 106 of the National Historic Preservation Act (NHPA) of 1966</b>	Section 106 of the NHPA applies to undertakings by any federal agency, undertakings receiving federal assistance, and undertakings requiring the issuance of a license from any federal agency. In the event of any of the above undertakings, the head of the acting, assisting, or licensing federal agency must “take into account” the possible effects the undertaking will have on any district, site, building, structure or object that is included in or is eligible for inclusion in the NRHP prior to the approval of expenditure of federal funds or issuance of a license. In addition, the head of any such agency must afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking.
<b>Section 4(f) of the US Department of Transportation Act of 1966 and determination of <i>de minimis</i></b>	<p>Section 4(f) states that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, wildlife and waterfowl refuge of national, State, or local significance, land of an historic site of national, State, or local significance only if there is no “prudent and feasible alternative” to the use of that land, and the program or project includes all possible planning to minimize harm to the public land involved.</p> <p>Under Section 4(f), any project which requires the use of the above described public properties is considered to have an “adverse effect” on the public property, requiring the consideration of all prudent and feasible alternatives. Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, amends Section 4(f) to include an alternative effect finding of <i>de minimis</i> for projects in which the federal agency involved is either the Federal Highways Administration (FHWA) or the Federal Transit Administration (FTA). A <i>de minimis</i> effect as relating to historic properties may be made when the process required by Section 106 of the NHPA results in a determination of No Adverse Effect or No Historic Properties Affected, the SHPO and ACHP (if participating) is notified of FHWA’s or FTA’s intent to make a <i>de minimis</i> finding, and FHWA or FTA has considered the views of other parties consulting in the Section 106 process. If a <i>de minimis</i> effect finding is made, the project may move forward without investigation of all other prudent and feasible alternatives.</p>

Word, phrase or acronym	Definition
<b>Section 4(f) property</b>	Section 4(f) property refers to land that is subject to Section 4(f). This includes: publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance that is included in or is eligible for inclusion in the National Register of Historic Places.
<b>Section 6(f)</b>	Section 6(f) of the Land and Water Conservation Fund Act provides additional protection of recreational resources. Under this Act, any recreational lands that were purchased or improved with Land and Water Conservation funds are protected from conversion to non-public outdoor recreational uses. The Secretary of Interior's approval is required to convert Land and Water Conservation funded lands from recreational uses. Conversions would be granted only if: 1) it complies with existing comprehensive statewide outdoor recreation plans, and 2) substitution of other equivalent recreation properties is assured.
<b>Sediment</b>	A general term for any unconsolidated particulate material that has been deposited by an agent of transport, such as water, ice, or wind.
<b>Seismic hazard</b>	Refers to the probability and amount of ground movement expected from an earthquake
<b>Sensitive receptors (noise)</b>	Sensitive receptors represent all land use activity categories where FHWA noise abatement criteria specify exterior and interior noise levels. Land use activity categories include residences, recreation areas, hotels, schools, churches, libraries, and hospitals.
<b>Severe impact (noise)</b>	Severe noise impacts occur when traffic noise levels reach 75 dBA and higher for outdoor activity areas or when predicted noise levels exceed existing levels by 15 dBA over existing noise levels.
<b>Severe traffic sound level impacts</b>	Traffic sound levels of 80 dBA Leq and higher for outdoor activity areas. Measurements must be in accordance with the Federal Highway Administration report "Measurement of Highway-Related Noise," May 1996..
<b>Severely exceed (noise)</b>	A 30-dBA increase over existing sound levels.
<b>Shielding objects (noise)</b>	Natural or artificial barriers (blockage) (e.g., natural topography, house rows, vegetation) that intervene between a noise source and receiver.
<b>Significant change in horizontal or vertical alignment (noise)</b>	A relocation of the highway that would result in an increase in the noise environment for affected residences (receivers) or residential equivalent locations by three or more decibels.
<b>Smog</b>	Smog is air pollution resulting when hydrocarbon and nitrogen oxides are exposed to sunlight. Sunlight turns these compounds into more harmful chemicals. Smog is often used in a more general sense to refer to any visible air pollution, especially at levels high enough to reduce visibility and to cause irritation to eyes, lungs, etc.
<b>Soil</b>	The portion of the earth's surface consisting of disintegrated rock and humus.
<b>Sole-source aquifer (groundwater)</b>	An aquifer or aquifer system that supplies 50 percent or more of the drinking water for a given service area and for which there are no reasonably available alternative sources should the aquifer become contaminated.
<b>Sound level measurements</b>	Measurements taken by the acoustics analyst or qualified staff person to calibrate and validate the traffic noise model for the existing year and design year.
<b>Sound level meter calibration</b>	A step to assure accuracy of a sound level measurement instrument (meter). Occurs in two circumstances:  (1) as independent annual test of the sound level meter to assure that it is within a certain accuracy range per National Institute of Standards and Technology (NIST) standards, and  (2) for field use of the microphone calibrator both before and after a sound level measurement is taken to assure sound level meter accuracy at the time of the measurement.
<b>Spawning</b>	Spawning is the laying of eggs directly in water by aquatic or amphibian animals, such as fish and frogs.

Word, phrase or acronym	Definition
<b>Species of concern</b>	A species of concern is any species whose conservation status is of concern, but for which status information is still needed.
<b>Spill prevention, control, and countermeasures (SPCC)</b>	A spill prevention, control, and countermeasures (SPCC) plan includes site information regarding hazardous materials, sensitive environmental receptors, spill prevention and containment methods, response procedures, and equipment and material to carry out preventive and response measures, and reporting requirements. SPCC plans ensure that all harmful and/or deleterious materials are properly stored and contained. Contractors are required to prepare and implement the SPCC plan in accordance with WSDOT Standard Specification 1-07.15(1).
<b>State Historic Preservation Officer (SHPO)</b>	The State Historic Preservation Officer (SHPO) coordinates cultural resource preservation activities in each state; one SHPO per state, usually appointed by the governor. SHPO is charged with reflecting the interests of the state and its citizens in preserving their cultural heritage, which involves a variety of responsibilities. In Washington State, the SHPO is a governor-appointed position housed in the Department of Archaeology and Historic Preservation, which reviews projects for compliance with Section 106 of the National Historic Preservation Act.
<b>State monitor species</b>	State monitor species are species that are not considered species of concern, but are monitored for status and distribution.
<b>State sensitive species</b>	A state sensitive species is any wildlife species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened.
<b>Stormwater runoff</b>	Stormwater runoff is the portion of precipitation (rainwater or snowmelt) that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body or a constructed infiltration facility.
<b>Stream simulation</b>	Stream simulation is a design method used to create or maintain natural stream processes in a culvert, facilitating movement of fish and wildlife through culverts.
<b>Study area</b>	A study area is the area in which effects from the project may occur.
<b>Subgrade</b>	Subgrade is the portion of the roadbed upon which the pavement structure and shoulders are constructed.
<b>Subsidence</b>	The sinking or downward movement of the ground surface.
<b>Substantially contaminated sites (hazardous materials)</b>	Sites that are typically larger in size or sites that have large volumes of contaminated materials, have a long history of industrial or commercial land use, and the contaminants are persistent and difficult or expensive to manage.
<b>Suitable habitat</b>	Suitable habitat is a combination of environmental factors that provides food, water, cover, and space that a species needs to survive and reproduce.
<b>Temporary Effects</b>	Temporary effects are short-term beneficial and adverse effects that occur during the construction of a project, but which are not permanent effects of the project.
<b>Temporary erosion and sediment control (TESC)</b>	A temporary erosion and sediment control (TESC) plan includes measures that may include, but are not limited to, the following (as necessary, depending on site conditions): temporary plastic cover, coir fabric (and/or wattles), seeding and mulching, temporary vegetated filter strips (i.e., for construction site stormwater control), slope drains, silt fence, sand, or geotextile-encased triangular silt dikes. The purpose of such a plan is to prevent and minimize erosion.
<b>Threatened species</b>	A threatened species is any species that is likely to become endangered within the foreseeable future.
<b>Threshold Discharge Area (TDA)</b>	An on-site area draining to a single natural discharge location or multiple natural discharge locations that combine within one-quarter-mile downstream (as determined by the shortest flowpath).

Word, phrase or acronym	Definition
<b>Total Maximum Daily Loads (TMDLs)</b>	A TMDL or Total Maximum Daily Load is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.
<b>Total suspended solids (surface water)</b>	Total quantity of dispersed solids, such as fine material or soil particles, carried within a stream.
<b>Traffic noise effects</b>	Effects which occur when the predicted traffic sound levels approach or exceed the Noise Abatement Criteria or when the predicted traffic sound levels substantially exceed the existing sound levels.
<b>Traffic through lanes</b>	A portion of the paved roadway surface (highway) on which motor vehicles are allowed to travel and extends between two access points (public intersections and interchanges). Access points do not include driveways. Interchange ramp lanes are considered as traffic through lanes except when expanded to add vehicle storage.
<b>Transportation Demand Management</b>	Transportation Demand Management strategies identify options that may reduce the demand for additional capacity on the existing roadway without adding travel lanes to the corridor. These strategies include enhanced transit, carpooling, and other travel demand reduction strategies.
<b>Transportation System Management</b>	Transportation System Management strategies identify options that may add capacity to the existing roadway without adding travel lanes to the corridor. These strategies include signal improvements, intersection lane configuration improvements, and increased transit service.
<b>Travel delay</b>	The additional amount of time to travel through an intersection or over a segment of corridor compared to uncongested traffic conditions. This measure represents the average delay encountered by a vehicle traveling through the API during the peak hour. This is measured by direction.
<b>Travel distance</b>	The total vehicle-miles of travel during the peak hour in the transportation model. This includes all vehicles making trips in the model and captures only the portion of those trips made within the transportation study area.
<b>Travel time</b>	The average travel time from one end of the project corridor to the opposite end during the peak hour. This is measured by direction.
<b>Travel time (in the transportation study area)</b>	The total vehicle-hours of travel during the peak hour in the transportation model. This includes all vehicles making trips in the model and captures only the portion of those trips made within the transportation study area.
<b>Tributary (surface water)</b>	A tributary is a stream that flows into a larger body of water.
<b>Uncontrolled access</b>	An access point onto the highway or local jurisdiction roadway that has no signage or signals to control vehicles entering or leaving a parcel.
<b>Uncontrolled intersection</b>	An uncontrolled intersection is an intersection that has no signage or signals but where the basic right of way rule controls who has the right of way at the intersection (first at the intersection has the right of way but yield to the right if two vehicles approach at the same time).
<b>Uniform Relocation Assistance and Real Property Acquisition Policies Act</b>	The Uniform Relocation Assistance and Real Property Acquisition Policies Act requires that comparable decent, safe, and sanitary replacement housing within a person's financial means be made available before that person may be displaced. When such housing cannot be provided by using replacement housing payments, the Uniform Relocation Act provides for "housing of last resort."

Word, phrase or acronym	Definition
<b>Unity</b> <b>(visual quality)</b>	<p>Unity is the visual coherence and compositional harmony of the landscape considered as a whole.</p> <p>With high unity the visual elements of the landscape join together to form a highly coherent, harmonious visual pattern. Man made and natural elements blend together.</p> <p>With medium unity the visual elements of the landscape join to form a moderately coherent, harmonious visual pattern. Man made elements blend with natural elements, but the visual order is disrupted.</p> <p>With low unity the visual resources do not join together to form a coherent, harmonious visual pattern. Man made elements do not have a visual relationship to natural landforms or land cover patterns and visual order is lacking.</p>
<b>Validation</b>	Comparison of measured traffic sound levels with current modeled traffic sound levels in the same location to ensure the traffic noise model is developed and constructed properly. The difference between measured and modeled sound levels must be within 2 decibels (dBA).
<b>Vehicle miles of travel</b>	A measure that accounts for both the number of vehicles using a roadway and the distance traveled by those vehicles.
<b>Visual quality</b>	<p>Visual quality is determined by computing the average of the view's vividness, intactness, and unity.</p> $\text{Visual Quality} = \frac{\text{Vividness} + \text{Intactness} + \text{Unity}}{3}$ <p>The change in visual quality that results from the proposed project is determined by the difference between the visual quality of the existing view and the visual quality of the proposed view.</p>
<b>Vividness</b> <b>(visual quality)</b>	<p>Vividness is the memorability of landscape components as they combine in striking and distinctive visual patterns.</p> <p>With high vividness the visual impression received is highly memorable, as contrasting landscape elements combine to form distinctive visual patterns. Strongly defined landscape or landforms are noted, including mountains, large bodies of water, distinctive patterns, colors, and textures of vegetation or significant man made structures.</p> <p>With moderate vividness the visual impression received is moderately memorable, with some distinctive patterns; moderately defined landscape or landforms are present, including low rolling hills, and smaller water bodies. Vegetation patterns, colors, and textures are less visible. Some significant man made structures may be present.</p> <p>With low vividness the visual impression received is of low memorability. Little visual pattern is formed because landscape elements do not combine to form a striking and distinctive pattern. Homogeneous landforms or landscapes and small bodies of water may be present. Vegetation patterns, colors, and textures are not noticeable and man made structures are insignificant or not memorable.</p>
<b>Volcanic rock</b>	Igneous rock resulting from volcanic action near the earth's surface, either ejected explosively or extruded as lava.
<b>Washington State Environmental Policy Act (SEPA)</b>	The Washington State law (RCW 43.21C) intended to minimize environmental damage; modeled after the National Environmental Policy Act (NEPA). SEPA requires that state agencies and local governments consider environmental factors when making decisions on development proposals over a certain size, comprehensive plans and zoning requirements, and other programmatic proposals. As part of this process, environmental documents are prepared and opportunities for public comment are provided.
<b>Wetland delineation</b>	To delineate a wetland means to identify the boundaries of the wetland. A wetland specialist uses a standard methodology to evaluate the soils, vegetation, and hydrology of the area that may be a wetland. The delineated boundary then is flagged in the field and surveyed.
<b>Wetland fill</b>	Material that has been deposited in a wetland as a result of human activity.



Word, phrase or acronym	Definition
<b>Wetlands</b>	Areas that are saturated with groundwater near the surface or areas that are flooded for extended periods of time and that support vegetation that can live in saturated soils. Wetlands generally include swamps, marshes, bogs, and similar areas.
<b>Worst case noise hour</b>	A period of (60) minutes throughout a (24) hour day in the existing year and future design year that reflects the peak traffic noise hour, usually associated with the peak traffic hour but not in every instance (e.g., where high traffic volumes cause vehicle speeds to drop far below the posted speed). Identification of this hour is not applicable for field sound level measurements because the traffic observed during the measurements is used to calibrate and validate the model.
<b>WSDOT</b>	Washington State Department of Transportation. Also known as the Department.

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